

NEW RANGES FOR OLD PLANTS.

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IN the early autumn of 1915 I was invited by Mr. Gladewitz and Mr. Chandler, both of Detroit, to accompany them on a botanical excursion to Oakwood, a suburban village to the south of Detroit. This is the site of one of the many salt works in this locality. Here is located the Detroit Rock Salt Co. which has, in spite of many difficulties, sunk the only salt "shaft" in Michigan if not in the entire country. The water and fine crystals from the salt works have converted a large tract of land from that of a fresh soil to one of a saline character which has to a certain extent changed the character of the flora. Many species have disappeared that once were common. Some new ones have crept in that have a distinct preference for saline situations. These are *Salicornia Europaea* L. and its varieties *pachystachya* (Koch) Fernald and *prostrata* (Pall.) Fernald, *Aster subulatus* Mx., and *Pluchea camphorata* (L.) DC. Just how these seaboard plants found their way into Michigan is problematical. Scarcely by means of birds as the feathered tribes do not travel east and west but rather on a north and south line. We have no substantiated records showing that Atlantic or Pacific birds have migrated across country and into the Great Lake regions. We can only surmise that they may have been brought west by means of railway freight traffic and when lodgement was made in this section, which provided the proper saline conditions suitable for their development, they persisted and have made flourishing colonies that are rapidly extending over the entire section which has been made saline by means of the escaping water and salt crystals from the mine and the salt crushers. The Rayless Aster and the Salt Marsh Fleabane spread rather slowly but apparently have become firmly established.

The Glasswort has spread very rapidly and now covers acres of ground. The variety *prostrata* with its long, widely spreading, and decumbent lower branches seems very distinct from the normal form of the species with ascending, more uniform (as to length) branches. The variety *pachystachya* is frequent; but as found here it seems scarcely worthy of recognition. The only distinction is one of measurements and in the dried specimens, even this difference vanishes. There are

intermediate individuals also, bearing both thick and slender spikes. Mr. Gladewitz, Secretary and Treasurer of the Detroit Institute of Science, was the first to discover and report these squatters that have preëmpted that section of Michigan territory which seems to provide those cool and saline conditions to which they are accustomed in their native haunts.

Another traveler that recently has been reported from the eastern shores of Michigan between Detroit and Port Huron is *Aster angustus* (Lindl.) T. & G. This is quite plentiful on a common in the village of River Rouge, on the banks of the Detroit and Rouge Rivers. This village is not far removed from Oakwood and the salt fields probably underlie it though the surface soil, at least to a tyro, gives no indication of a saline character.

Mr. Chandler was the original discoverer of the Rayless Aster at this locality and probably the first to record it from Michigan.

Mr. Billington of Detroit, has discovered near Palmer Park, Detroit, Mich., a plant that proves to be *Pentstemon gracilis* Nutt. This is far east of its recorded range of from Minnesota to Missouri for its eastern limits. He has also found near Cass Lake *Galium erectum* Huds. This has not been recorded heretofore for localities west of the New England states. It seems to be well established at the locality mentioned. Specimens of the above have been preserved for their private herbaria by the original discoverers. Such as I have collected are as given below.

Salicornia Europaea L.: Oakwood, Mich.; Farwell, Gladewitz & Chandler, no. 4105, Sept. 23, 1915. *Salicornia Europaea* Linn. var. *pachystachya* (Koch) Fernald: Oakwood, Mich.; Farwell, Gladewitz & Chandler, no. 4107, Sept. 23, 1907. *Salicornia Europaea* Linn. var. *prostrata* (Pall.) Fernald: Oakwood, Mich.; Farwell, Gladewitz & Chandler, no. 4103. *Aster subulatus* Mx.: Oakwood, Mich.; Farwell, Gladewitz & Chandler, no. 4102, Sept. 23, 1915. *Aster angustus* (Lindl.) T. & G.: River Rouge, Mich.; Farwell, no. 4122, Sept. 30, 1915. *Pluchea camphorata* (Linn.) DC.: Oakwood, Mich.; Farwell, Gladewitz & Chandler, no. 4104, Sept. 23, 1915.

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